

AMENDMENTS TO THE CLAIMS

At page 72, line 2, please insert the following phrase:

--The invention claimed is:--

Please amend claims 1 and 3, add new claims 4-11, and cancel non-elected claim 2 without prejudice, as shown in the following listing of claims, which will replace all prior versions and listings of claims in the application. Non-elected claim 2 was withdrawn and is canceled without prejudice to its pursuit in an appropriate continuation or divisional application.

Listing of claims:

1 (currently amended). A method of screening a compound or its salt, which promotes or inhibits a function of an orphan receptor protein, comprising:

(i) measuring a cell stimulating activity to be measured of test compound (a) when test compound (a) is brought in contact with cells capable of expressing an orphan receptor or its cell membrane fractions, and a cell stimulating activity to be measured when test compound (a) is brought in contact with cells which are not capable of expressing do not express the orphan receptor or its cell membrane fractions, respectively, fractions;

(ii) comparing the cell stimulating activities thus measured for each test compound [[a],] (a) to identify compounds having an agonist activity, activity, and extracting a common structure among the compounds having the agonist activity to identify ligand candidate compounds; and

(iii) ① comparing a cell stimulating activity to be of the ligand candidate compound, which is measured when [[a]] the ligand candidate compound which is selected by considering a common structure of said compounds having an agonist activity is brought in

contact with said cells capable of cells expressing the orphan receptor or its cell membrane fractions, [[and]] with a cell stimulating activity to be measured of test compound (b), which is measured when test compound (b) is brought in contact with said cells capable of cells expressing the orphan receptor or its cell membrane fractions, and ② measuring amount of specific binding between said orphan receptor protein and test compound (b),

wherein, if there is an increase in the amount of specific binding as compared to non-specific binding, then test compound (b) is recognized as a compound which promotes or inhibits a function of an orphan receptor protein depending on whether test compound (b) strengthens the cell stimulating activity when test compound (b) is brought in contact with cells expressing the orphan receptor or its cell membrane fractions as compared to when the ligand candidate compound is brought in contact with cells expressing the orphan receptor or its cell membrane fractions.

2 (canceled).

3 (currently amended). A method of identifying a ligand or its subtypes of an orphan receptor protein, comprising:

(i) measuring a cell stimulating activity to be measured of test compound (a) when test compound (a) is brought in contact with cells capable of expressing an orphan receptor or its cell membrane fractions, and a cell stimulating activity to be measured when test compound (a) is brought in contact with cells which are not capable of expressing do not express the orphan receptor or its cell membrane fractions, respectively, fractions;

(ii) comparing the cell stimulating activities thus measured for each test compound [[(a),]] (a) to identify compounds having an agonist activity, and activity, and extracting a common structure among the compounds having an agonist activity to identify ligand candidate compounds;

(iii) measuring amount of specific binding between said orphan receptor protein and [[a]] the ligand candidate compound which is selected by considering a common structure of the compounds having an agonist activity; and

(iv) selecting from the candidate compounds a compound which shows an increase in the amount of specific binding to said orphan receptor as compared to non-specific binding.

4 (new). The method of claim 1, wherein the common structure comprises a common three-dimensional structure.

5 (new). The method of claim 1, wherein the test compound (b) comprises a peptide or a protein.

6 (new). The method of claim 1, wherein:

- a. the test compound (b) comprises a peptide or a protein; and
- b. the common structure has an R-X-NH₃ structure at the C-terminus, wherein X comprises an amino acid residue.

7 (new). The method of claim 1, wherein the test compound (b) comprises a branched or cyclic organic compound.

8 (new). The method of claim 3, wherein the common structure comprises a common three-dimensional structure.

9 (new). The method of claim 3, wherein the test compound (b) comprises a peptide or a protein.

10 (new). The method of claim 3, wherein:

- a. the test compound (b) comprises a peptide or a protein; and
- b. the common structure has an R-X-NH₃ structure at the C-terminus, wherein X comprises an amino acid residue.

11 (new). The method of claim 3, wherein the test compound (b) comprises a branched or cyclic organic compound.